B Scene

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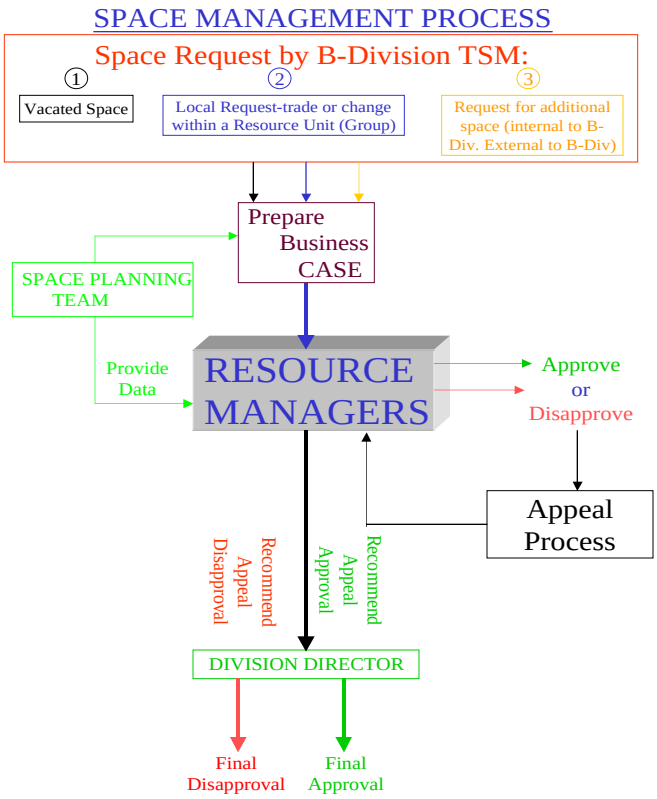


Look for:

Bioscience Division Space Allocation Process Unveiled

Space is one of the most emotional but vital resources this organization has. When the new Resource Management units were first described they were defined as being "geographical". There would be two RM units at TA-43-HRL and one each at TA-35 and -46. Following this theme, HRL-1 second floor, Bldg-37 and first floor north became B-N1. The basement, Bldg-20, Bldg -45 and the south 1/3 of HRL-1 became the space resource for B-N2. To avoid panic and stress on research efforts, we have stated that alignment of personnel to appropriate Resource Managers (RMs) and relocation of space will take time. The goal will be to use this plan when reassignments and relocations can be easily or readily accomplished. We recognize there will be occasions when relocations will have to be initiated to accommodate immediate needs and we will work to minimize the adverse affects on individuals and projects. Our guiding principle will be to optimize the positive benefit overall.

To provide everyone with equal opportunity to request space, we have adopted a process that should improve communications of needs and help expedite allocations. This process channels all space requests directly to the owning RM. Requests must be in writing and provide a "Business Case". The idea is to encourage requestors to be clear about their needs and be aware of the impacts of their requests on others. Space requests can only be initiated by B-Division TSMs and written "Business Cases" will be required.

As with all plans there are exceptions: Offices and cubes will be assigned by the Facility Manager at TA-43 and by the RMs at -35 and -46, without "Business Cases". Assignment of these areas is too fluid for consideration by a process similar to that for laboratory space allocations.

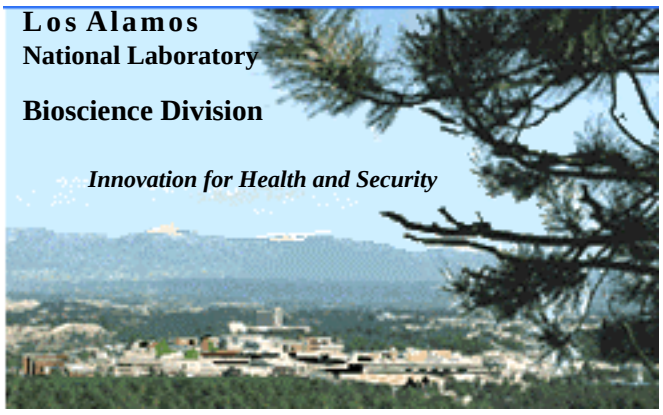
Please review this process. It is in effect at this time, but it is a "living process". If we find there are parts that don't work, we will change them in consultation with the management team. Our objective is to have a fair space allocation process to accommodate and to initiate relocations. Growth for our science projects is vital and welcome, and the downstream effects apply pressure on space allocations. Flexibility will be appreciated and self-preservation is expected. This is one area where everyone can practice one of B-Division's "Guiding Principles" – "Anticipate and positively respond to change by being adaptive."

Space Management Process

1. Only B-Division TSMs can submit space requests
2. There are three kinds of space requests:
   - Vacating space
   - Requests for changes within a Resource Unit
   - Requests for changes that extend between Resource Units or external to B-Division (other divisions or FMUs)
3. TSMs must prepare requests for RM review. These requests will constitute the "BUSINESS CASE" for any request and include the following:
   - Staffing concerns
   - Funding (present and future)
   - Current space utilization
   - Special needs (equipment, facility)
   - Effects on others (identifying those who could be displaced)
4. TSM and RM discuss and determine the validity of request (Approve / Disapprove).
5. RM MUST advise all affected parties prior to any action being taken
   - If request affects others, that individual has the right to present a "defending" business case
   - If request is for unoccupied space other "interested" TSMs have the right to present competing "business cases"
   - If request is for space within B-Division outside a unit, then affected RMs MUST participate in review of "business cases"
   - If the request is for space outside B-Division, then owning FM or Division Director or designee must be contacted by the RM or B-Division DD OR BOTH
6. THERE IS AN APPEAL PROCESS:
   - TSM or affected parties can prepare appeals for the owning RM to consider
   - RM can negotiate appeal and approve or disapprove
   - * Affected parties can appeal to the Division Director, the RMs should prepare approval / disapproval recommendations for the DD to review and the affected parties can provide rebuttals
   - Decisions of the Division Director are final
7. RMs will semi-annually (Sept and March) inform the SPACE PLANNING TEAM (SPT) of changes of allocations within their respective units
8. Semi- annually (Sept. and March) the SPT will collect all allocations for submission to MOADS for space recharge. Routine work will include validating facts of business cases as needed. At the September meeting, the SMT with the RMs and DD should review the strategic plan to assure alignment of space allocations and future scientific directions.

- *Contributed by Julie Wilson*

From Jill's Desk



Important upcoming events and getting to know you! The next three months are going to be intense. B Division is being highlighted in the upcoming UC Science and Technology Panel meeting (March 30-31). At that meeting we will be rolling out who we are and what we plan to do. The support of the Panel for our vision will be important for us all. They have been, for some time now, very concerned about the role of the 3 UC laboratories (Berkeley, Livermore and Los Alamos) with respect to the Joint Genome Institute and how that will evolve as our first sequencing goals are being met. In that vein I have been working with Livermore and Berkeley and your Science Leadership Team to develop what we would like to present as a tri-Laboratory vision for the future of Bioscience. One in which the three labs prosper, and develop a strategic partnership with the production facility at Walnut Creek. Your RM's and Thrust leaders should be talking to you about these ideas out as they develop.

We are also preparing for our first Division Review Committee meeting (see our first B Scene for the membership!). Harry Gray is our Chairperson, but unfortunately cannot be here for the first meeting and so David Galas has graciously agreed to be acting Chair person. David will be here for the follow up meeting of the DRC Chairs in June.

With these important events on the horizon, you have been receiving lots of requests from me, via Sandra Zink, for materials. I hope it will not be overly burdensome. Also I trust the materials will prove to be useful for many occasions. It is important for us to have these things to be able to articulate our story, and gain momentum for obtaining the resources we will need to

build our new facility, and in the mean time maintain and upgrade where we are. Thank you for your help!

While all of this is happening, I have realized that there are too many faces in the hallways and at the sites that I recognize, but really do not know well enough if I am going to an effective champion for the whole Division. I have asked Annette Archuleta, therefore, to start scheduling 1:1's - I hope to get through everyone in the Division! It will take a long while. But we have begun, and I am finding these 1:1s to be informative and fun! I regard the time as belonging to you and hope you will use it for whatever is important to you - science, philosophy, tours, celebrating, bringing up issues.... It's for you.

- *Jill*

Buck$

OBER Report

DOE/OBER Announces Microbial Cell Project:

The Department of Energy Microbial Cell Project was launched at the DOE Genome Contractor/Grantee Workshop in Santa Fe last week. This announcement sets the stage for a new integrated, interdisciplinary program to develop an understanding of how a cell works. Drawing from the announcement, "In biology, the whole is much greater than the sum of the parts, and understanding this complexity is the exciting challenge science now faces. Revolutionary breakthroughs in genome sequencing, new methods of protein characterization, and access to powerful supercomputers now position scientists to begin to understand the complex pathways that give a microbial cell its life. The Microbial Cell Project is an exciting new initiative that will address these challenges. The Project builds on previous research sponsored by the Office of Science, including the Microbial Genome Program, itself a spinoff of the DOE-initiated Human Genome Program." More information is available at: http://microbialcellproject.org/

We will provide updates as this initiative evolves and let you know when the call for proposals will be forthcoming.

- *Contributed by Ed Hildebrand*

NIH Corner

Having just come back from a meeting of the Radiation Study Section, I thought that I would devote this column to the Good, the Bad and the Ugly of NIH grant writing from a reviewer's perspective. Regardless of how brilliant your idea and how wonderful your reputation, the following are true. The Good will definitely earn you points with the reviewers. The Bad will subtract from your chances ("dampen enthusiasm" in the reviewers' lingo). The Ugly will annoy the reviewers, not a frame of mind you want to have them in while reading your application. Pick 4-5 things from the Ugly and the reviewers will question (out loud during the review session) why you even bothered to submit the thing.

The Good

- A clear, logical and concise statement of the aims of the research
- A clear, logical and concise statement of the significance of the proposed work
- A clear, logical and concise statement of the rationale behind the approach taken
- A clear, logical and concise background explaining the reason you chose to do this
  {see a pattern developing here?}
- A clear, logical and concise experimental design
- Preliminary data which supports your hypotheses and/or your ability to do what you proposed
- Writing that makes it clear why every part of the application is there
- An innovative hypothesis and/or experimental approach
- Clear connections between the specific aims and every other part of the application
- A revised application which addresses the previous critique (not necessarily agreeing with it)

The Bad

1) Reviewing only your own work or that of your close friends
2) Reviewing all the work done in several fields in the past 50 years
3) Proposing 30 years of work when asking for 5 years of funding
4) Proposing 6 months of work when asking for 5 years of funding
5) Providing no detail on the methods (other than references to other people's work)
6) Writing 2 pages about how to do a Western (or other simple, standard method)

7) No obvious connection between the various specific aims
8) No obvious connection between the aims and the background
9) No obvious connection between the aims and the preliminary data
{see a pattern developing here?}
10) No obvious connection between the aims and the approach or methods proposed
11) Not specifically explaining the above connections
12) A questionable first aim upon which all other aims are completely dependent

The Ugly

1) Using 10 point font with 0.1 inch margins and 5-page paragraphs
2) Figures with no legends, illegible axis labels, very tiny data points and dozens of lines
3) Gels or photomicrographs which are so degraded by copying that they show nothing
4) Saying "Figure 3 shows that ..." when it shows the exact opposite
5) Saying "Figure 3 shows that ..." when there is no such figure in the application
6) Showing data which already establishes (or worse, refutes) one of your proposed aims
7) Poor grammar, run-on sentences and ambiguous statements
8) Sentences which end in mid-
9) Saying the same thing over and over and over and ...over again (and one more time)
10) Apologizing to the reviewers for doing #9 and then repeating it again
11) Most words over 7 characters long are misspelled
12) Showing lots of data having nothing to do with the proposed work
13) Putting data in Methods and methods in the Background and background in Preliminary Data
14) Extraneous stuff, e.g. 5-page description of facilities which are not used in the proposed work
15) Saying "as discussed later" and then not mentioning the subject again
16) Proposing to do something which has already been done (but, of course, not cited by you)
17) Ignoring the previous critique when resubmitting an application to the same Study Section
18) "Dissing" the reviewers in a revised application (e.g. "if the reviewers knew anything...")
19) Asking for money for people with no obvious connection to the work proposed
20) Including letters from collaborators which give no indication what they will do for the project
21) Stressing the innovative nature of something done by many others for the last 10 years
22) Getting around the page limitations by including a huge Appendix

I have seen everything I have listed above. Next time I will describe the actual review process, not only the ideal version you can read about on the Center for Scientific Review website, but what really happens during the Study Section meeting, including what it means to have your grant "streamlined."

➢ *Contributed by Jim Freyer*

NIH Program Director Visits B Div

Vicki Seyfert, Ph.D., Director, Office of Innovative Scientific Research Technologies, National Institute of Allergies and Infectious Diseases, NIH, spent a day at B Division on Wednesday, March 1, speaking with various scientists and giving a colloquium. Her colloquium was focused on 'Sensor Needs for the Early Diagnosis and Treatment of Disease." She pointed out the importance of targeting the sensor for what is being monitored. For example, developing a sensor for the presence of infection needs to monitor the immune response and not the presence of a pathogen. This is because many pathogens (e.g., TB, HIV, others) may be present, but not have reached a level of infection in the host. Sensor needs for establishing host infection include establishing markers for organism growth, pathogenesis, organism changes, persistence and antibiotic resistance. Models for pathogenesis are several: hit and run (injury response), persistence (e.g., HIV), malignant transformation (e.g., HPV), repeated infections, molecular mimicry and genetic susceptibility. Current approaches are largely focused on DNA detection, "But what is the normal background? We need to link this data with longitudinal epidemiology to learn more and we have little or no information about the mechanisms of infection." Basil Swanson, Resource Manager for BN-2, and Technical Host for Vicki's visit, said " This was a fantastic day. We need to do more of these kinds of visits to learn about NIH programs and directions. Our scientists had a wonderful exchange of ideas with Vicki."

Bruce Lehnert (left) and Goutam Gupta (center) share their ideas on host-pathogen interactions with Vicki Seyfert, NIH, during her visit to B Division March 1st.

➢ *Contributed by Sandra Zink*

Bravo

Xian Chen Receives Prestigious Award

The White House has announced that Xian Chen (CST-9) was selected for a Presidential Early Career Award for Scientists and Engineers. Xian received a congratulatory letter from Neal Lane, Assistant to the President for Science and Technology. The award honors outstanding young scientists and engineers who show exceptional potential for leadership in their respective fields and is the highest honor that can be given to them by the U.S. government. "These talented young men and women show exceptional potential for leadership at the frontiers of scientific knowledge," President Clinton said with respect to the award. "Their passion for discovery will spark our can-do spirit of technological innovation and drive this Nation forward to build a better America for the 21st century."

This award will be accompanied with 5-year funding to support the awardees' future research. President Clinton is expected to attend the upcoming awards ceremony in the White House.

Xian is a former LS Division postdoc and staff member, and is currently a staff member in CST-9 residing in B Division. He says, "Among many outstanding young researchers in the Nation, I am deeply honored to be a very lucky one to represent them. I have committed myself to excel in the exciting fields of science in future years. I consider that the winning of this highly prestigious award is the beginning of a successful journey, as in an old chinese saying, "the first step of a Long March."

Mark Mundt Receives Genome Award

Mark Mundt was presented with an Achievement Award at the 8th DOE-OBER Genome Contractor's Meeting by Trevor Hawkins, Sequencing Director for the Production Sequencing Facility in Walnut Creek. The purpose of the award was to recognize Mark's leadership of the effort to submit all of the JGI's sequence to GenBank, in particular the massive amounts of partially drafted sequence now being recorded. Statistics to reflect the quality of the data submissions were also collected and included in each record and used to categorize the entries. When possible, contigs are ordered and oriented to produce what GenBank calls a "Phase 2 record". Mark helped develop software to make this a more feasible process.

The JGI is the main contributor of Phase 2 sequence to GenBank right now as the other major centers have given up on doing double-ended plasmid sequencing, and thus do not often have the information to organize contigs within a clone project. Main members of LANL's Finishing Team who contributed to the Genbank submission effort are students Kristina Kommander and Lela Tatum. Mira Bussod served an important role in this activity in the past. The team also does annotation of completed sequence for final submission using (former LS Division TSM) Darrell Ricke's novel SCAN program. Other awards have been presented to members of the JGI at these meetings before, but this is the first given to a LANL person.

DOE Joint-Genome Institute Achievement Award
March 3, 2000
Mark Mundt
"For leadership in the sequencing submission process to GenBank, enabling the JGI to distribute its data and meet goals"

Innovations Honored

Several B Division scientists were among those recognized on the evening of March 1 at the Second Annual Patent and Licensing Awards Ceremony called "Out*Standing* Inn*Ovation*". The Event was held in the Main Auditorium, which was open to the public for the occasion. Opening remarks and praise were given by Joe Salgado, Deputy Laboratory Director for Business,

Administration, and Outreach and by Tom Meyer, ALDSSR.

The following Patents issued in 1999 had Co-inventors from B Division:
"Method and Apparatus for Reducing Solvent Luminescence Background Emissions" Pat Ambrose, Peter Goodwin, and Dick Keller, et al.
“Optical Selection and Collection of DNA Fragments", (Mary Roselaniec) John Martin, Jim Jett, and Scott Cram.
“Methods for Quantifying Optical Properties of the Human Lens, (Tom Loree), Irving Bigio et al.

License income went to Hong Cai, Dean Cole, Jim Jett, Dick Keller, Babs Marrone, John Martin, John Nolan, Tom Terwilliger, Cliff Unkefer, Scott White, and Bill Wray.

Richard Mah, program Director for Industrial Business Development, noted the accelerated growth in licensing income. License income was $845k in 1999, compared to $500k just 2 years ago. Eight-five percent of this income is re-distributed to the LANL inventors and to the technical divisions.

A reception for awardees and guests followed in the Study Center.

Breaking News

Genome Contractor’s Meeting

The 8th DOE-OBER Contractor-Grantee Workshop on The Genome Project was held in Santa Fe Feb 27-March 2, 2000. Approximately 150 abstracts were submitted and were organized into 8 catagories: Sequencing, Instrumentation, Mapping, Bioinformatics, Function and cDNA Resources, Microbial Genome Program, Ethical, Legal, and Social Issues, and Infrastructure. While the main emphasis of the DOE Genome Program continues to be placed on sequencing to "Bermuda Standards" human chromosomes 5, 16, and 19, the talks and posters at the meeting reflected the growing levels of DOE interest and support for work in functional genomics, bioinformatics, and microbial sequencing. A highlight of this meeting was the relatively large number of invited speakers who do not receive direct support from DOE. Among them were Tom Maniatis and Penny Chisholm. Tom Maniatis was a member of the advisory committee for the Library Project over ten years ago, and he is now collaborating with the Production Sequencing Facility in sequencing and functional genomics studies of genes for cadherins and protocadherins. Penny Chisholm gave a fascinating talk about *Prochlorococcus marinus*, a microbe that may affect OBER and B Division programs in the future. This organism contributes 30-80% of the ocean-based photosynthesis so it plays a major role in the global carbon cycle and the earth's climate. Its genome is only 1.8 Mb, and it is being sequenced with DOE support. Nearly all B Division personnel supported by the genome project attended at least part of this meeting so it should be easy to obtain a copy of the abstracts. The abstracts are also posted on the website: http://www.ornl.gov/hgmis.

➢ *Contributed by Larry Deaven*

B Heard

Mars Sample Handling Workshop

One aspect of the NASA solar system exploration program is the study of the planet Mars, and it is anticipated that samples from Mars will be collected and returned to Earth within the next decade. NASA is conducting a "Mars Sampling Handling Workshop" March 20-22 in Bethesda, MD designed to define comprehensive protocols for assessing the potential biohazard of samples returned from Mars. It is anticipated that the samples will not be sterilized prior to return to Earth, so that the material can be examined for any living material under appropriate conditions as designed by recommendations obtained from the workshop. NASA plans to construct a specialized facility to house and investigate the Mars samples.

I feel that Bioscience Division and other areas of the Laboratory have very appropriate technology and expertise for examining the anticipated Mars samples. I have been invited to participate in the workshop along with about 50 other scientists from a wide range of scientific disciplines and I would appreciate any input or suggestions that anyone may have.

➢ *Harry Crissman (crissman@telomere.lanl.gov)*

B Safe

Thanks to all who contributed to my knowledge of chloroform use in this division. There are several ways to stabilize chloroform. Bottom-line is we should do the following: 1) Always use chloroform in a hood; 2) whenever possible buy stabilized chloroform; 3) Dispose of chloroform that is no longer being used; and 4) Buy only as much of any product as you will use in the safe shelf life of the material. This brings me to WASTE MINIMIZATION. We need to remember that every chemical we buy has to either be used or it goes out as waste. That waste can be very costly to dispose of in some cases. This year we will see the first true costs of disposal for all our chemical and radiological wastes. Those costs are being charged to group costs, but next year if the costs warrant we will move them to projects. Start thinking about how you can individually contribute to waste minimization and reduce the costs of waste disposal by buying smart and planning work. Whenever possible share purchases if items only come in bulk. Let us know how we can help. Let's keep those

dollars out of waste costs and the landfill and in our science products.

➢ *Contributed by Julie Wilson*

B There

The B Division staff seminar series is on Mondays at 11 AM in the HRL auditorium.

March 13, Brian Dyer, B-S2, "Dynamics of the Primary Processes of Protein Folding"
March 20, Judy Mourant, B-S1, "Mechanisms of Light Scattering in Tissue and a Little Bioremediation, Too"
March 27, Joe D'Anna, B-N2, "Cyclin Dependent Kinases: Who's Playing with Whom?"
April 3, Charlie Strauss, B-S1, "TBA"

Tech Time
March 14, 3:00 P.M. in the HRL-1 Auditorium. Beth Allen, "Analysis Of Biomolecular Interactions Using The (Very Cool) Biacore 2000"

Bioscience Division's Distinguished Speaker Series begins March 15th with Dr. Bernard Roizman, University of Chicago, world-renowned virologist whose work on herpes viruses has much relevance for gene expression and gene regulation. Gerry Myers, BN-1, is the technical host. The lecture will take place in P-Division Auditorium, March 15, beginning with a reception at 3 p.m.

Help us plan the **10th Annual AIDS Walk** in Santa Fe - *or* - Sell ads in the program - *or* - Help form the walk teams - *or* - Spread the word - *or* – Help with the Wellness Pavilion tents - *or* - Volunteer for the day of the Walk (May 6) - *and* - CALL **Santa Fe Cares** at 989-9255!

➢ *Kristina Moreno*

LANL Director's Colloquium, March 28, 2000, Dr. Gabriele Kraatz-Wadsack, United Nations Special Commission, will speak on the "UN Role in Disarmament and Long-term Monitoring of Biological Warfare in Iraq." Jill Trewhella, B Division Director, will be the technical host.

LANL Director's Colloquium on April 11, 2000 will feature Dr. Mihail (Mike) Roco, NSF and Chair of the President's National Science and Technology Interagency Working Group on Nanoscience, Engineering and Technology. His talk entitled "The National Nanotechnology Initiative" will be given in the Physics Auditorium beginning at 01:10 PM. Technical host is Terry Lowe, MST Deputy Division Director.

B Serious

➢ *Contributed by Jill Trewhella, who says "I couldn't resist showing this one. My positive message would be: to avoid such outcomes we all need to be involved!"*

"As you slide down the banister of life
May the splinters never point the wrong way"

B Scenes

Los Alamos Women in Science Hosts Middle School Girls

On March 6, 16 high school girls from grades 8, 9 and 10 came to B Division to learn about biology and pique their interest in science careers. Expanding Your Horizons is an activity that has been sponsored by the Los Alamos Women in Science for more than a decade. This year, 168 young women registered from 23 different schools, from Pecos to Questa, including just about everyone else in between. Purpose of the annual event is to increase young women's interest in and awareness of mathematics, science, and other nontraditional professions and to provide students an opportunity to meet and form personal contacts with women working in science careers. Cathy Cleland coordinated the event for B Division. The girls were split into two groups. Tracy Ruscetti (B-N2) and Beth Allen (B-N2) showed them how to do recombinant DNA and Carolyn Bell-Prince (B-N2) and Susan Bailey (B-N2) led them through experiments demonstrating chromosome structure and how to detect abnormalities.

More information about Expanding Your Horizons and the Los Alamos Women in Science programs can be obtained at their website: http://www.t12.lanl.gov/~lawis/. Volunteers for next year's EYH (March 28th, 2001) are needed to develop books and workshop ideas. Contact Cathy (7-9028 or buzzer@lanl.gov) if you are interested.

- *Contributed by Sandra Zink*
- *Photos by Annette Archuleta*

Carolyn Bell-Prince describes chromosome structure and how to look for abnormalities, such as Down's syndrome.

Tracy Ruscetti demonstrates how to isolate plasmid DNA that codes for green fluorescent protein (GFP). By inducing bacteria to make the protein, a dramatic color change occurs as shown in the beaker below. "It's really exciting for them," said Ruscetti. "It's just so dramatic when the solution turns this bright fluorescent green.

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